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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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ALSTON & BIRD LLP  
BANK OF AMERICA PLAZA  
101 SOUTH TRYON STREET, SUITE 4000  
CHARLOTTE, NC 28280-4000

EXAMINER

RUTTEN, JAMES D

ART UNIT

PAPER NUMBER

2122

DATE MAILED: 08/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/916,112	LEE ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	J. Derek Rutten	2122	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 July 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 July 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some    \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) *  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION*****Drawings***

1. The drawings are objected to because Figures 4-9, 11, 13-15, and 17-19 contain grayscale shading which degrades reproducibility, and does not particularly aid in understanding of the invention as pointed out in 37 CFR 1.84(l) and 1.84(m). Further, letters and numbers should consist of clean black lines as required by 37 CFR 1.84(l), and should be at least 1/8 inch in height as required by 37 CFR 1.84(p). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.
2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: design

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database file 34, XML meta documents 36, generated software application 40, and system installation program 44. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

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***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 9-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Claim 9 recites the limitation "software application file" in line 5. There is insufficient antecedent basis for this limitation in the claim. This limitation will be interpreted as simply --software application--.

6. Claims 10-13 are rejected for being dependent upon rejected base claim 9.

***Claim Rejections - 35 USC § 103***

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7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-8, 19, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,343,265 to Glebov et al. (hereinafter "Glebov") in view of "Building Enterprise Solutions with Visual Studio 6" by Benage et al. (hereinafter "Benage").

As per claim 1, Glebov discloses:

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*A method (column 9 line 49 – column 10 line 36) for automatically*

*generating a software application on a first computer, comprising:*

*defining a system design (column 4 lines 21-24: "Developers use the OO modeling tools to identify and **define the application** requirements and functionality for the application program.");*

*creating a design database file associated with said system design (column 4 lines 50-51: "The OO modeling tool 36 **produces a design model** 38, which may conform to the UML specification.");*

*converting said design database file to a meta document (column 4 lines 51-54: "A mapping system 40 **maps the data** in the design model 38, which provides the initial definition of the*

objects, **to metadata** 42 that is then retained in a common repository 44.”);

*generating a program from said meta document (column 5 lines 1-4:*

“The developer may use an application development tool 46 to modify and manipulate the metadata 42 in the common repository 44 to develop and **implement the objects** defined therein to complete the design process.”);

Glebov does not expressly disclose: *generating an installation program from said meta document; and installing at least part of said software application by executing said installation program.*

However, in an analogous environment, Benage teaches a software development tool that generates an installation program that installs at least part of a software application when executed (page 490 “Stepping Through the Package and Deployment Wizard”: “In this section, you will step through the process of **creating an Internet package, installing the application**, and viewing the application in a container.”).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Benage’s teaching of installation program generation in Glebov’s program generating method. One of ordinary skill would have been motivated to generate an installation program for a generated program for installing program files in order to be able to use it on a computer.

As per claim 2, the above rejection of claim 1 is incorporated. Glebov further discloses: *transmitting said installation program from said first computer to a second computer* (column 8 lines 30-31).

As per claim 3, the above rejection of claim 1 is incorporated. Glebov does not expressly disclose *creating a setup package to automate at least part of an installation and a customization of said software application*.

However, Benage teaches use of a setup package generated by a "Package Wizard" to aid in the installation of an application (page 494). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Benage's package wizard in Glebov's method of software development. One of ordinary skill would have been motivated to simplify the complicated process of software installation by developing an automated installation package.

As per claim 4, the above rejection of claim 1 is incorporated. Glebov does not expressly disclose: *creating one or more files to allow said software application to be installed on a second computer*.

However, Benage teaches the generation of files for installation of software on a second computer (page 494). It would have been obvious to one of ordinary skill in the art at the time the invention was made to generate Glebov's files with Benage's software development method. One of ordinary skill would

have been motivated to generate files so that an application represented by those files could be transferred to a second computer.

As per claim 5, the above rejection of claim 1 is incorporated. Glebov does not expressly disclose *configuring and customizing said software application*.

However, Benage teaches configuration and customization of a software application (pages 490-494). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Benage's customization and configuration with Glebov's generated objects. One of ordinary skill would have been motivated to customize and configure an application for various computing environments which would allow an application to run on numerous platforms and/or networks.

As per claim 6, the above rejection of claim 1 is incorporated. Glebov further discloses: *defining a first entity and at least one attribute associated with said first entity* (column 3 lines 5-8).

As per claim 7, the above rejection of claim 6 is incorporated. Glebov further discloses: *defining a second entity; and defining a relationship between said first and second entities* (column 3 lines 3-5 and 8-11).



As per claim 8, the above rejection of claim 6 is incorporated. Glebov further discloses *defining a second entity* (column 3 lines 8-11); *and defining a predefined search associated with at least one of said first and second entities* (column 14-17).

As per claim 19, Glebov discloses:

*A method* (column 9 line 49 – column 10 line 36 as cited in the rejection of claim 1) *for generating a software application, comprising:*

*receiving system design* (column 4 lines 21-24 as cited in the rejection of claim 1), *wherein said system design defines at least one entity* (column 3 lines 5-8 as cited in claim 6);

*establishing database connections* (column 4 lines 50-54 as cited in the rejection of claim 16);

*creating procedure code* (column 5 lines 1-4 as cited in the rejection of claim 1);

*creating controller classes, said controller classes providing logic for said at least one entity* (column 4 lines 31-33: “The developer designs objects and classes in an attempt to define real world problem spaces as program objects.” The entities defined in the system design get further defined as classes which when implemented inherently provide control logic for the entity.);

*creating object business code for said at least one entity* (column 4 lines 62-64: “The common repository 44 can **generate** XML, IDL or

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other file formats such as Java files by reading the metadata.”);

Grabov does not expressly disclose generating directories, web browser files, security logic, or project files.

However, Benage teaches:

*generating destination directories* (page 491 Figure 16.9 – These directories are generated during installation.); *generating virtual directories* (vb page 492: “specify whether parts of your distributed application will be located at a Microsoft Web site.”);

*creating at least one web browser template file* (page 490: “The next time the URL address of the application is specified by some browser out in the ether, the application will be installed at the client computer...” In order for the application to be accessible, a browser template file must inherently be available to provide access.);

*generating security logic* (page 493: “The Safety Setting dialog enables you to personally indicate project components you decide are safe for the user environment.” The security of the system could be compromised by running unsafe code.); *and*

*generating a project file* (page 494: “The package will be built in short order.”).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Benage's installation techniques with Grebov's application generation. One of ordinary skill would have been motivated to install a generated application using a directory structure to organize application files, a browser template for permitting broad access to an application, security logic to make execution of the application safe by preventing damage to a system, and a project file for easy distribution of an application.

As per claim 20, the above rejection of claim 19 is incorporated. Glebov further discloses: *receiving an extensible markup language file associated with said system design* (column 4 lines 62-64 as cited in the rejection of claim 17).

9. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Glebov and Benage as applied to claim 9 above, and further in view of "Computer User's Dictionary" by Microsoft Press (hereinafter "Microsoft Dictionary").

As per claim 10, the above rejection of claim 9 is incorporated. Glebov does not expressly disclose: *installing reports server software on an application server*.

However, Benage teaches an application server (page 494 last paragraph: "It acquires, when possible, the needed files..."). Also, in an analogous environment, the Microsoft Dictionary teaches that a report generator application can be used as part of database management (page 298 "report generator"). It

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would have been obvious to one of ordinary skill in the art at the time the invention was made to use the Microsoft Dictionary's teaching of report generators with Benage's application server in Glebov's development method. One of ordinary skill would have been motivated to allow user's to view formatted information contained in a database.

10. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Glebov and Benage as applied to claim 9 above, and further in view of U.S. Patent 4,605,820 to Campbell, Jr. (hereinafter "Campbell").

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As per claim 11, the above rejection of claim 9 is incorporated. Glebov does not expressly disclose: *installing application code to create and update a key generation table*.

However, in an analogous environment, Campbell teaches the use of a key generation table (Abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Campbell's key generation table with Glebov's database. One of ordinary skill would have been motivated to enhance security and reduce key storage space.

11. Claims 9, 12, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Glebov and Benage as applied to claim 1 above, and further in

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view of "IBM Component Broker on System/390" by Gregor et al. (hereinafter "Gregor").

As per claim 9, the above rejection of claim 1 is incorporated. Glebov further discloses: *configuring a target database* (Fig. 3 element 44). Glebov does not expressly disclose *a database server and establishing communication between said target database server and at least one generated software application file*.

However, in an analogous environment, Gregor teaches facilities for setting up communication between an application and a target database server (page 23, Figure 10).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Gregor's database communication with Glebov's generated objects. One of ordinary skill would have been motivated to provide ubiquitous Internet-based client access to generated software using a database server.

As per claim 12, the above rejection of claim 9 is incorporated. Glebov does not expressly disclose: *providing a web server access to said at least one generated software application file*.

However, Benage teaches that web servers can be given access to software application files (page 492 last paragraph). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Benage's web server in Glebov's generated objects. One of ordinary skill would have been

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motivated to provide simple world wide access to software using a commonly available web server.

As per claim 13, the above rejection of claim 9 is incorporated. Glebov does not expressly disclose: *placing at least one hook in at least one web page and installing application code to process said at least one hook.*

However, in an analogous environment, Gregor teaches the placement of a hook in a web page along with application code to process the hook (page 20 last paragraph). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Gregor's web page hook in Glebov's server.

One of ordinary skill would have been motivated to initiate execution of an application residing on a server in order to stratify execution control.

12. Claims 14-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Glebov in view of Gregor.

As per claim 14, Glebov discloses:

*A system (Fig. 3) for developing a computer-generated software application, comprising:*

*a designer computer (Fig. 3 element 30);*

*a design application residing on said designer computer (Fig. 3 element 36), said design application configured to receive a system design and create a design database file (column 4 lines 50-51 as cited in the rejection of claim 1);*

*a generator application in communication with said design application, configured to receive said design database file and generate said computer-generated software application (column 5 lines 1-4 as cited in the rejection of claim 1),*

Glebov does not expressly disclose: *wherein said computer-generated software application includes a presentation tier, a business tier and a data tier.*

However, in an analogous environment, Gregor teaches (page 33) that distributed computing can be modeled in terms of a presentation tier ("first tier), a business tier ("middle tier), and a data tier ("final tier"). (page 33: "The **first tier** provides the application user interface and allows for user manipulation and interaction. The **middle tier** is where much of the essential business logic resides. It separates the first tier from various backend systems and resource managers. The backend constitutes the **final tier** in our diagram. This is where we might find a variety of databases, transactional monitor systems, message-oriented middleware, and enterprise resource planning applications.")

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Gregor's teaching of tiers in Glebov's design system. One of ordinary skill would have been motivated to separate the logical

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components of a distributed system to allow for greater abstraction and improved security.

As per claim 15, the above rejection of claim 14 is incorporated. All further limitations have been addressed in the above rejection of claim 6.

As per claim 16, the above rejection of claim 14 is incorporated. Glebov further discloses: *a design database configured to receive and store said design database file* (column 4 lines 50-54).

As per claim 17, the above rejection of claim 14 is incorporated. Glebov further discloses: *wherein said generator application is configured to convert said design database file into an extensible markup language file* (column 4 lines 62-64).

As per claim 18, the above rejection of claim 17 is incorporated. Glebov further discloses: *wherein said computer-generated application is programmed with object technology* (column 4 lines 19-21).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to J. Derek Rutten whose telephone number is (703) 605-5233. The examiner can normally be reached on M-F 6:30-3:00.




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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam can be reached on (703) 305-4552. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

jdr



TUAN DAM  
SUPERVISORY PATENT EXAMINER